

AMENDMENTS TO THE CLAIMS

Claims 1- 22 (canceled).

23. (Currently amended) A process for the enzymatic synthesis of incompletely acrylated polyol acrylates, which comprises reacting in which an aliphatic polyol is reacted with an acrylic acid compound or an alkyl ester thereof in bulk or in a liquid reaction medium comprising an organic solvent, in the presence of an enzyme which is selected from hydrolases and transfers acrylate groups, and after the end of the reaction optionally isolating the polyol acrylate(s) formed ~~is (are) isolated~~ optionally from the reaction mixture.

24. (Previously Presented) A process as claimed in claim 23, wherein the liquid reaction medium has an initial water content of less than about 10% by volume.

25. (Previously Presented) A process as claimed in claim 23, either of the preceding claims, wherein acrylic acid compound and polyol are used in a molar ratio of about 100:1 to 1:1.

26. (Currently amended) A process as claimed in claim 23, wherein the acrylic acid compound is acrylic acid, C<sub>1</sub>-C<sub>6</sub> lower-alkyl-substituted acrylic acid, or the alkyl esters of these compounds, or mixtures thereof.

27. (Previously Presented) A process as claimed in claim 23, wherein the polyol is a straight-chain or branched or carbocyclic, saturated or unsaturated hydrocarbon compounds having at least 3 carbon atoms or at least 3 (esterifiable) hydroxyl groups in optically pure form or as a stereoisomer mixture, or mixtures of different polyols.

28. (Previously Presented) A process as claimed in claim 27, wherein the polyol is a straight-chain, branched or cyclic saturated hydrocarbons having 3 to 30 carbon atoms and from 3 to 10 hydroxyl groups.

29. (Previously Presented) A process as claimed in claim 23, wherein a completely acrylated polyol acrylate is added to the reaction medium, the polyol acrylate being the ester of an acrylic acid compound and a polyol as defined in claim 23.

30. (Previously Presented) A process as claimed in claim 23, wherein the polyol is glycerol, diglycerol, triglycerol, 1,2,4-butanetriol, trimethylolmethane, trimethylolethane, trimethylolpropane, trimethylolbutane, 2,2,4-trimethyl-1,3-pentanediol, pentaerythritol, ditrimethylolpropane, dipentaerythritol, tripentaerythritol, D-, L-, and mesoerythritol, D- and L-arabitol, adonitol, xylitol, sorbitol, mannitol, dulcitol or inositol, or the mixtures or alkoxylates thereof.

31. (Previously Presented) A process as claimed in claim 23, wherein the hydrolase is esterases (E.C. 3.1.-.-).

32. (Previously Presented) A process as claimed in claim 31, wherein the esterase is lipases (E.C. 3.1.1.3), glycosylases (E.C. 3.2.-.-), or proteases (E.C. 3.4.-.-) in free or immobilized form.

33. (Previously Presented) A process as claimed in claim 23, wherein the organic solvent is C<sub>1</sub>-C<sub>6</sub> alkanols, pyridine, polyalkylene glycol dialkyl ethers, alkylene carbonate, C<sub>1</sub>-C<sub>6</sub> alkyl alkanecarboxylic esters, acetone, 1,4-dioxane, 1,3-dioxolane, THF, dimethoxymethane, dimethoxyethane, or mixtures thereof.

34. (Previously Presented) A process as claimed in claim 23, wherein the enzyme content of the reaction medium is in the range from about 0.01 to 10% by weight, based on the polyol used.

35. (Previously Presented) A process as claimed in claim 23, wherein the reaction temperature is in the range from 0 to about 100°C.

36. (Previously Presented) A process as claimed in claim 23, wherein the reaction medium is single-phase or multiphase and wherein the reactants are present in solution, suspension or emulsion.

37. (Currently amended) A process as claimed in claim 23, wherein alcohol produced during the transesterification or water of reaction produced during the esterification is removed from the reaction equilibrium solution.

38. (Currently amended) A process for preparing polymeric polyol acrylates, wherein at least one incompletely acrylated polyol acrylate is prepared by a is prepared by the process as claimed in claim 23, optionally separating from the reaction mixture, and optionally polymerizing together with further comonomers.

39. (Previously Presented) A process as claimed in claim 37, wherein a reaction product comprising substantially polyol monoacrylates is reacted with at least one comonomer to form a linear copolymer.

40. (Currently amended) A polymeric polyol acrylate obtainable by a obtained by the process as claimed in claim 38.

41. (Currently amended) A reaction product comprising polyol acrylate, obtainable by a obtained by the process as claimed in claim 23.

42. (Previously Presented) A reaction as claimed in claim 41 containing from about 60 to 100 mol%, based on the total molar number of polyol acrylate, of compounds having both alcohol functionalization and acrylate functionalization.

43-45 (cancelled)

46. (New) A process as claimed in claim 24, wherein acrylic acid compound and polyol are used in a molar ratio of about 100:1 to 1:1.

47. (New) The process as claimed in claim 23, which further comprises thermal or UV curing and wherein the polyol after curing contains extractables which are present in an amount that are less than 5% by weight.

48. (New) A process for the enzymatic synthesis of a partially acrylated polyol, which comprises reacting an aliphatic polyol with an acrylic acid compound or an alkyl ester thereof in bulk or in a liquid reaction medium comprising an organic solvent, in the presence of an enzyme which is selected from hydrolases and transfers acrylate groups, and after the end of the reaction optionally isolating the polyol acrylate(s) formed from the reaction mixture.